UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

July 14, 2008

Ref: 07-038-FRC

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

Docket No. CP06-365-000

Dear Ms. Bose:

The U.S. Environmental Protection Agency (EPA) has reviewed the final Environmental Impact Statement (EIS) for the **Bradwood Landing Project** (CEQ No. 20080231), located at the former townsite of Bradwood, Oregon, which is situated at Rivermile 38 on the Columbia River. Our review has been conducted in accordance with our responsibilities under the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C), and Section 309 of the Clean Air Act, 42 U.S.C. Section 7609.

The project described in the final EIS is generally consistent with the project detailed in the August 2007 draft EIS. Specifically, the project includes a one berth marine facility capable of handling 125 liquefied natural gas (LNG) carrier ships per year; interconnecting facilities including piping, electrical, and control systems; two LNG storage tanks with a capacity of 160,000 cubic meters; vapor handling, re-gasification and sendout systems; utilities and other support systems, associated buildings and enclosures, and a 36-mile-long, 30 to 36-inch-diameter natural gas pipeline extending from the LNG terminal to the interconnection with the Williams Northwest Pipeline system north of Kelso, Washington. The proposal also includes the dredging of 700,000 cubic yards of material from within the Columbia River in order to create a turning basin. The final EIS differs from the draft EIS in the proposed dredge material disposal location. The draft EIS identified the Wahkiakum County Sand Pit as the disposal location. The final EIS indicates that dredged materials will be placed at the LNG terminal site. Material generated through maintenance dredging may still be placed at the Sand Pit site.

In our December 19, 2007 comment letter, EPA identified concerns with the proposed project related to wetlands impacts and mitigation, impacts to air from diesel emissions, dredging, invasive species, ballast water intake, and horizontal directional drilling. We also raised questions relative to the consideration of interrelated projects, such as the Palomar Pipeline.

We appreciate the effort that the Federal Energy Regulatory Commission (FERC) has taken to address the concerns we raised in our review of the draft EIS. The attachment to this

letter provides our response to supplemental information and analysis provided in the final EIS. We have follow-on recommendations related to wetland mitigation, sulfur dioxide emissions from LNG vessels, dredge disposal locations within the lower Columbia River estuary, invasive species, and horizontal directional drilling. We look forward to continuing to work with FERC to understand and minimize the environmental impacts of the Bradwood Landing Project. Thank you for considering our input on the final EIS. If I can provide additional explanation of our comments please contact me at 206-553-1601, or Teresa Kubo of my staff at 503-326-2859.

Sincerely,

Christine B. Reichgott, Manager
NEPA Review Unit

Enclosure: Detailed Comments

EPA Region 10 Detailed Comments
Bradwood Landing Project
July 14, 2008

Wetlands

In our December 2007 comment letter regarding the draft EIS, EPA indicated concern that the proposed mitigation plan may not provide adequate compensation for all aquatic resources potentially adversely affected by the Bradwood Landing Project. In response to this, and similar concerns from other parties, the mitigation plan is being revised, and FERC is recommending in the final EIS that NorthernStar continue to consult with appropriate agencies to finalize its compensatory mitigation plan. EPA supports FERC's direction to the applicant on this matter. We recommend that the wetlands mitigation measure (measure 26, page 5-29) be revised to specifically include EPA in the list of agencies that NorthernStar will consult with concerning the adequacy of the mitigation plan.

We also noted in our comment letter on the draft EIS that two of the sites proposed for inclusion in the mitigation plan (lower Svensen Island and Hunt Creek) are already functioning at a high level for a number of wetland parameters, making them less acceptable as mitigation acres. We appreciate FERC's acknowledgement that these acres will be subject to a reduced compensation credit. Accordingly, we recommend that as the mitigation plan is finalized, NorthernStar continue to seek opportunities to provide adequate compensation for the various aquatic functions that will be lost as a result of this project. These include benefits to water quality, nutrient cycling, flood storage, and habitat support for invertebrate, water bird and amphibian species. Opportunities should be pursued consistent with the recently issued rule regarding Compensatory Mitigation for Losses of Aquatic Resources, 73 Fed. Reg. 19594 (April 10, 2008).

Air Quality

In our comments on the draft EIS, we requested clarification on the potential impacts from SO2 resulting from the burning of diesel fuel by LNG tankers. While we appreciate the updates and clarifications included in table 4.10.1.4 to address these questions, one of the table modifications has raised an additional question. In response to one of our comments, the assumed sulfur content for marine diesel fuel was revised from 2.7 weight percent to 4.7 weight percent (the international sulfur limit for fuel oil used in ships). In spite of this change, the final EIS indicates that overall SO2 emissions will be 2.2 tons less than what was predicted in the draft EIS (totaling 644.6 tons per year). This difference appears to stem from a revised assumption about how the LNG carriers will run while berthed. The draft assumed use of diesel, whereas the final assumes that the carriers will be able to use boil-off-gas (BOG) with a side stream of liquid fuel. If it is expected that the carriers will be using BOG while in port, this should be stated specifically as a recommendation in section 4.10.1 (Air Quality). If the use of BOG is not a standard best practice that is applicable across the existing LNG fleet, this assumption should be revised, and total SO2 recalculated.

In our comments on the draft EIS we also noted that LNG contains small amounts of heavier hydrocarbons (propane, ethane and butane) which may need to be removed in order to

meet the British Thermal Unit (BTU) and gas quality specifications of receiving entities. We appreciate that, as noted in the response to comments, NorthernStar must meet "interchangeability standards." We continue to be concerned, however, that even though the imported gas may meet local specifications when distributed, the BTU content of that gas may still be greater than the BTU content of the natural gas currently utilized in this region. Natural gas with a higher BTU content and/or higher Wobbe Index has the potential to increase NOx, carbon monoxide (CO) and unburned hydrocarbon emissions. We therefore recommend that FERC consider the current BTU content normally found in the region's natural gas supply, and include in the Order a discussion of the potential impacts of increasing the BTU content of the gas supply.

Dredging

Construction of the LNG terminal would require the dredging of about 700,000 cubic yards of sediment for the ship berth and maneuvering area. Maintenance dredging would remove an additional 80,000 cubic yards of material every two to four years. The draft EIS proposed to place 350,000 cubic yards of the dredged material associated with construction, as well as all of the material generated through maintenance dredging, at the Wahkiakum County Sand Pit. The final EIS modifies this proposal. It is now proposed that all 700,000 cubic yards of the dredged material associated with construction be placed at the LNG terminal site, and only material generated though maintenance dredging would be placed at the Sand Pit site. We note that the placement of dredge spoils at the Sand Pit site is contingent upon the renewal of a county permit, and may therefore not be a viable option. Should a different dredge material disposal site need to be identified, a different dredging system would likely be required (probably a clamshell/barge or hopper dredge) and the dredging time frame would likely need to be extended. We further note that the only other viable in-river disposal option (scour hole placement) is similarly unpermitted. Given the uncertainty around where, and how material generated through maintenance dredging will be addressed, we recommend that FERC identify a permissible site for dredged materials and analyze the attendant impacts prior to construction.

Invasive Species

In our comments on the draft EIS we noted that several species of highly aggressive noxious weeds occur in the project area, including Scotch broom, Himalayan blackberry, reed canary-grass, and purple loosestrife. We recommended that the final EIS clarify NorthernStar's intent in terms of addressing these species on the proposed construction and mitigation sites, and identify the control and eradication methods to be used. In response, FERC has included a recommendation that NorthernStar consult with appropriate agencies to revise its Noxious Weeds and Soil-borne Plant Disease Control Plan. We appreciate this recommendation, and encourage FERC to direct the applicant to work also with the Oregon Invasive Species Council (http://www.oregon.gov/OISC/) and the Columbia River Estuary Study Taskforce (http://www.columbiaestuary.org/) on the development of this plan.

Frac-Out Contingency Planning

EPA's comments on the draft EIS included a recommendation to revise the Horizontal Directional Drill (HDD) Contingency Plan to include mitigation for frac-outs to uplands. In response, FERC has included a recommendation in the final EIS that NorthernStar revise its HDD Contingency Plan to include mitigation measures for frac-outs to uplands. We appreciate the inclusion of this recommendation, and encourage the applicant to work with EPA as this plan is revised. An example of a plan with upland elements is the Kinder Morgan Louisiana Pipeline HDD Contingency Plan (Appendix I of the KMLP Draft EIS; FERC Docket number CP06-449-000/January 26, 2007).

Interrelated Activities - Palomar

In our comments on the draft EIS, EPA recommended that the lateral pipeline extending between the Palomar pipeline and the Bradwood Landing pipeline at Wauna be considered as an interrelated activity, and its environmental impacts considered. In the final EIS, FERC disagreed with our assessment that the Palomar lateral is an interrelated activity. We recognize that an EIS analyzing Palomar pipeline will be developed. However, because the lateral pipeline extension from Palomar to Bradwood would not occur but for the construction of the Bradwood facility, we continue to recommend that the lateral extension should be analyzed as an interrelated activity within the Bradwood EIS.